

40. The immortalized cell of claim 37, wherein said promoter comprises the HIV-1 LTR or HIV-2 LTR.

41. The immortalized cell of claim 37, wherein said cell is sensitive to HIV infection to a degree similar to a primary peripheral blood mononuclear cell (PBMC).

42. The immortalized cell of claim 37, wherein said cell is infected with a HIV virus.

Sub. C2
Dr
43. A method for detecting a HIV virus comprising:
a) providing an immortalized cell characterized by expressing CCR5, CXCR4, and CD4 receptors and having stably incorporated a marker gene operably linked to a promoter, wherein expression of the marker gene occurs upon HIV infection of the immortalized cell;
b) contacting said immortalized cell with a composition comprising at least one HIV virus; and,
c) assaying for marker gene expression. *redundant*
Sub. C3
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assay
assay

44. The method of claim 43, wherein marker gene expression quantitates the level of infectious HIV units.

45. The method of claim 43, further comprising isolating said HIV virus.

46. The method of claim 43, wherein said HIV virus is a primary HIV virus.

47. The method of claim 46, wherein said primary HIV virus is a HIV-1 virus.

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48. The method of claim 43, wherein said marker gene encodes luciferase, β -galactosidase, green fluorescent protein, or a polypeptide that confers antibiotic resistance.

49. The method of claim 43, wherein said promoter comprises the HIV-1 LTR or HIV-2 LTR.

50. A method for determining the sensitivity of an HIV virus to an antiviral compound comprising:

a) providing an immortalized cell characterized as expressing CCR5, CXCR4, and CD4 receptors and having stably incorporated a marker gene operably linked to a promoter, wherein expression of the marker gene occurs upon HIV infection of the immortalized cell;

b) providing the immortalized cell a first composition comprising at least one anti-viral compound;

c) contacting said immortalized cell with a second composition comprising at least one HIV virus; and,

d) assaying for marker gene expression.

correlation / comparison

51. The method of claim 50, wherein said marker gene encodes luciferase, β -galactosidase, green fluorescent protein, or a polypeptide that confers antibiotic resistance.

52. The method of claim 50, wherein said promoter comprises the HIV-1 LTR or HIV-2 LTR.

53. The method of claim 50, wherein said HIV-1 virus is a primary HIV-1 virus.

54. The method of claim 50, wherein said anti-viral compound is selected from the group consisting of AZT, 3TC, Nevirapine, and an antibody.

55. The method of claim 50, wherein the anti-viral compound affects early stages of the viral life cycle.

56. The method of claim 55, wherein said anti-viral compound affects the activity of Reverse Transcriptase, Integrase, or Env.

57. The method of claim 50, wherein said anti-viral compound affects late stages of the viral life cycle.

58. The method of claim 57, wherein said anti-viral compound affects the activity of Gag or protease.

Sub-D²
59. The method of claim 50, wherein said anti-viral compound is indinavir.

60. The method of claim 50, wherein expression of the marker gene quantitates the sensitivity of the HIV virus to the antiviral compound.

61. The method of claim 55, wherein expression of the marker gene quantitates the sensitivity of the HIV virus to the antiviral compound.

62. The method of claim 57, wherein expression of the marker gene quantitates the sensitivity of the HIV virus to the antiviral compound.

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63. A method for determining HIV viral titers comprising:
a) providing an immortalized cell characterized as expressing CCR5, CXCR4, and CD4 receptors and having stably incorporated a marker gene operably linked to a promoter, wherein expression of the marker gene occurs upon HIV infection of the cell;
b) contacting said immortalized cell with a composition comprising at least one HIV virus; and,
c) assaying for marker gene expression.

64. The method of claim 63, wherein said HIV virus is a primary HIV-1 virus.

Sub D
65. A kit comprising an immortalized cell characterized by expressing CCR5, CXCR4, and CD4 receptors and having stably incorporated a marker gene operably linked to a promoter, wherein marker gene expression occurs upon HIV infection of the cell.

66. An immortalized cell characterized as expressing CCR5, CXCR4, and CD4 receptors and having stably incorporated an amplicon gene operably linked to a promoter.

67. The immortalized cell of claim 66, wherein said immortalized cell originates from HeLa.

~~Sub D~~
68. The immortalized cell of claim 66, wherein said amplicon gene encodes Tat.

69. The immortalized cell of claim 66, wherein said promoter is constitutive or inducible.

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70. The immortalized cell of claim 66, wherein said promoter is a CMV promoter.

71. The immortalized cell of claim 66, wherein said immortalized cell is sensitive to HIV infection to a degree similar to a primary peripheral blood mononuclear cell (PBMC).

72. The immortalized cell of claim 66, wherein said immortalized cell is infected with a HIV virus.

73. The immortalized cell of claim 72, wherein said HIV virus is a primary HIV-1 virus.

74. The immortalized cell of claim 66 further having stably incorporated a marker gene operably linked to a second promoter, wherein expression of the marker gene occurs upon

HIV infection of the cell.

75. The immortalized cell of claim 74, wherein said marker gene encodes luciferase, β -galactosidase, green fluorescent protein, or polypeptide that confers antibiotic resistance.

Sub 2
76. A method for amplifying HIV virus comprising:
a) providing an immortalized cell characterized as expressing CCR5, CXCR4, and CD4 receptors and having stably incorporated an amplicon gene operably linked to a promoter active in said immortalized cell; and,
b) contacting said immortalized cell with a composition comprising at least one HIV viral isolate.

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77. The method of claim 76, wherein said HIV viral isolate is a primary HIV-1 viral isolate.

78. The method of claim 76, wherein said promoter is a constitutive or an inducible promoter.

79. The method of claim 76, wherein said promoter is a CMV promoter.

80. The method of claim 76, wherein the immortalized cell further has stably incorporated a marker gene operably linked to a second promoter, wherein expression of the marker gene occurs upon HIV infection of the cell.

81. The method of claim 80, wherein said marker gene encodes luciferase, β -galactosidase, green fluorescent protein, or polypeptide that confers antibiotic resistance.

82. The method of claim 76, further comprising isolating said HIV virus.

83. The method of claim 82, further comprising:

- a) contacting a second immortalized cell with the isolated HIV virus, wherein said second immortalized cell is characterized by expressing CCR5, CXCR4, and CD4 receptors and having stably incorporated a marker gene operably linked to a second promoter, wherein expression of the marker gene occurs upon HIV infection of the immortalized cell; and,
- b) assaying for marker gene expression.

84. A kit comprising an immortalized cell characterized by expressing CCR5, CXCR4, and CD4 and having stably incorporated an amplicon gene operably linked to a promoter.

85. A method for isolating HIV viruses resistant to an antiviral compound comprising:

- a) providing a first immortalized cell characterized as expressing CCR5, CXCR4, and CD4 receptors and having stably incorporated an amplicon gene operably linked to a promoter active in said cell;
- b) providing the first immortalized cell a first composition comprising at least one anti-viral compound;
- c) contacting said first immortalized cell with a second composition comprising at least one HIV virus;
- d) culturing the first immortalized cell in the presence of the first and second compositions; and,
- e) isolating said HIV virus. ?

86. The method of claim 85, further comprising contacting the isolated HIV virus and with a second immortalized cell characterized as expressing CCR5, CXCR4, and CD4 receptors and having stably incorporated a marker gene operably linked to a promoter, wherein expression of the marker gene occurs upon HIV infection of the second immortalized cell.